



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,507	09/13/2004	Akio Ozasa	12480.000061/US	8575
30593 7590 03/25/2008 HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195				
EXAMINER				
BODAWALA, DIMPLE N				
ART UNIT		PAPER NUMBER		
1791				
MAIL DATE		DELIVERY MODE		
03/25/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/507,507

**Applicant(s)**

OZASA ET AL.

**Examiner**

DIMPLE N. BODAWALA

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 and 26-41 is/are pending in the application.  
4a) Of the above claim(s) 20-25, 42 and 43 is/are withdrawn from consideration.  
5) ☒ Claim(s) 9-11, 31, 33, 37 and 39 is/are allowed.  
6) ☒ Claim(s) 1, 4-6, 12-15, 19, 28, 32, 34 and 35 is/are rejected.  
7) ☒ Claim(s) 2, 3, 7, 8, 16-18, 26, 27, 29, 30, 36 and 38-41 is/are objected to.  
8) ☒ Claim(s) 1-43 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 13 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/13/2004, 12/13/2004, 3/9/2007  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-19 and 26-41, drawn to a method to manufacture a biodegradable molded article.

Group II, claim(s) 20-25 and 42-43, drawn to a mold.

2. The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: claim 20 is either anticipated or obvious by either Nakanishi (U S Patent No. 6,228,898) or Andersen et al. (U S Patent No. 6,030,673). Accordingly, the special technical feature linking these two inventions, "a mold", does not provide a contribution over the prior art, and no single general inventive concept exists. Therefore, the restriction is appropriate.

3. During a telephone conversation with Donald Daley on 1/22/2008 a provisional election was made **without traverse** to prosecute the invention of Group I, claims 1-19 and 26-41, drawn to a method to manufacture a biodegradable molded article. Affirmation of this election must be made by applicant in replying to this Office action. Claims 20-25 and 42-43 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Priority***

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

6. The lengthy specification, which contains 147 pages, has not been checked to the extent necessary to determine the presence of all possible

minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

7. Claim 40 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 38. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

8. Claim 41 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 39. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

9. Claim 5 is objected because claim 5 contains typography error for the measure unit of a cross section of an exhaust hole.

***Double Patenting***

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to

exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1, 4, 5, 12, 13, 14, 15, 28, 34 and 35 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9 and 11 of Ozasa et al. (U.S. Patent No. 7,332,214) in view of Andersen et al. (U S Patent No. 5,783,126).

12. Ozasa et al. ('214) claims a manufacturing method of a biodegradable molded article comprising preparing a slurry or dough molding material mainly made of starch or a derivative thereof and obtained by adding water therewith; and a coating film mainly made of a biodegradable plastic having hydrophobicity; and heating and molding the molding material and the coating film in a mold having a given-shaped cavity or a specific shaped

cavity to mold the molding material through the steam expansion, and at the same time soften and compress-bonding as a pressure-bond the coating film to a surface of a biodegradable molded article obtained through the steam expansion molding. It further claims that the process comprising a step of heating which is done so that the mold has a temperature not less than a softening point of the coating film and the coating film having a melting point of 170 C or higher, which can be 10 C higher than the temperature of the mold.

13. Ozasa ('214) claimed all structural limitation as discussed above, but fails to claim a mold having an exhaust hole.

14. Andersen et al. ('126) discloses a method for manufacturing article which comprises mold having an exhaust hole (12,16,18) for discharging out the gas from the cavity (See figure 2; col.23 lines 23-50). It further teaches that the gas existing between the coating film and a surface of the mold is discharged out of the mold through the holes (12,16,18) in the heating and molding step (See figure 2), Wherein the exhaust hole has a cross section between  $0.12 \text{ mm}^2$  and  $1.13 \text{ mm}^2$  (See col.23 lines 33-49). It further teaches that the heating is done so that mold has a temperature not less than 150 C (See col.21 lines 17-25).

15. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention Ozasa et al. ('214) by providing a mold with vent hole for exhausting gas from the cavity as suggested by Andersen et al. ('214).

16. Claims 19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9 and 11 of Ozasa et al. (U.S. Patent No. 7,332,214) in view of Andersen et al. (U S Patent No. 5,783,126) further in view of Okazaki et al. (EP 0679509 A2).

17. Ozasa et al. and Andersen et al. disclose all claimed limitations as discussed above, but fail to teach or suggest the coating film is a biaxially stretched film.

18. Okazaki et al. ('509) disclose biaxially oriented laminated film as a biaxially stretched film with excellent scratch resistance, and friction property as well as excellent dubbing resistance (See abstract).

19. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention Ozasa et al. ('214) by providing a coating film as a biaxially stretched film for providing friction property to the molded articles as suggested by Okazaki et al.



20. Claims 6 and 32 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9 and 11 of Ozasa et al. (U.S. Patent No. 7,332,214) in view of JP 2000-334825.

21. Ozasa et al. ('214) claims a manufacturing method of a biodegradable molded article comprising preparing a slurry or dough molding material mainly made of starch or a derivative thereof and obtained by adding water therewith; and a coating film mainly made of a biodegradable plastic having hydrophobicity; and heating and molding the molding material and the coating film in a mold having a given-shaped cavity or a specific shaped cavity to mold the molding material through the steam expansion, and at the same time soften and compress-bonding as a pressure-bond the coating film to a surface of a biodegradable molded article obtained through the steam expansion molding. It further claims that the process comprising a step of heating which is done so that the mold has a temperature not less than a softening point of the coating film and the coating film having a melting point of 170 C or higher, which can be 10 C higher than the temperature of the mold.

22. Ozasa ('214) claimed all structural limitation as discussed above, but fails to claim a deep drawing shape of article.

23. JP 2000-334825 discloses method for producing molding an article which comprises a mold which comprises inside the mold of a deep drawing shape the molding material and coating film being placed substantially flat for heating and molding the material to manufacture a molded article of a deep drawing shape (See figure 1).

24. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention Ozasa et al. ('214) by providing a mold with a step of a deep drawing shape for manufacturing a molded article of a deep drawing shape as suggested by JP 2000-334825.

***Allowable Subject Matter***

25. Claims 9-11, 31, 33, 37, 39, and 41 are allowed.

26. Claims 2-3, 7-8, 16-18, 26-27, 29-30, and 36-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

27. The following is a statement of reasons for the indication of allowable subject matter: The prior arts of record fails to teach or suggest a method of manufacturing the biodegradable articles as defined in claims of the instant application. The closest prior arts Andersen et al. (U S Patent No. 5,783,126), Okazaki et al. (EP 0679509 A2) and JP 2000-334825 fail to teach or suggest a

space leading to the cavity through the exhaust hole is formed inside the mold and the space is hermetically separated from outside the mold as defined in claim 2. They further fail to teach or suggest the method step of a central part of the coating film being deformed by moving the convex and concave molds in a direction, wherein these molds are fit and at least while the coating film is being deformed a relative moving speed of the convex mold to a plane formed by connecting a surface of non-deforming parts on an outer periphery of the coating film being maintained from 8 mm/s to 12 mm/s as defined in claims 7-9, 29-30. They further fail to teach or suggest a slip agent as defined in claims 16 and 36. They further fail to teach or suggest a coating film is denatured polyester as defined in claims 18, 38 and 40.

28. Nor does there appear to be any reason in this reference, or combined with any of the other prior art of record, to modify the mold for molding a biodegradable article to result in such a combination of features.

### ***Conclusion***

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIMPLE N. BODAWALA whose

telephone number is (571)272-6455. The examiner can normally be reached on Monday - Friday at 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PHILIP C. TUCKER can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dimple N Bodawala  
Examiner  
Art Unit 1791

/D. N. B./  
Examiner, Art Unit 1791

Application/Control Number: 10/507,507  
Art Unit: 1791

Page 12

/Philip C Tucker/  
Supervisory Patent Examiner, Art Unit 1791